RESTRICTED CIRCULATION

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AGRICULTURAL MEMORANDUM No 714

Estimated Actual Soil Moisture Deficits, 1941-70, WALES

L P Smith

Following the lines of Ag Mems 707 and 708, and using the same notation, the following multiple regressions were found:-

	LQ	Median	HQ
End of June	0.90	0.93	0.93
End of July	0.91	0.97	0.95
End of August	0.96*	0.96	0.93
End of September	-	0.96*	0.95

*stations with annual average rainfall under 1100mm.

The formulae were:-

	LQ	Median	HQ
End of June	$0.52P_3-0.02R_3+0.2$	$0.05P_3-0.019R_3+5.15$	$0.57P_3-0.01R_3-0.04$
End of July	$0.40P_4-0.018R_4+1.25$	$0.34P_4-0.02R_4+3.72$	$0.54P_4-0.011R_4-0.29$
End of August	$0.30P_5-0.018R_5+2.51$ (below 1100mm annual average)	$0.47P_5-0.019R_5+1.5$	$0.62P_5-0.016R_5-0.45$
End of September	- (all years above 800mm annual average)	$0.31P_6-0.019R_6+3.45$ (below 1100mm annual average)	$0.64P_6-0.014R_6-2.14$

The basic data were as follows:-

	JUNE			JULY			AUGUST			SEPT		
	LQ	M	HQ	LQ	M	HQ	LQ	M	HQ	LQ	M	HQ
WALES												
Carmarthen	0.0	0.6	2.3	0.0	0.4	2.4	0.0	0.0	0.4	0.0	0.0	0.0
Brecon	0.0	1.7	2.6	1.0	2.0	3.0	0.0	1.5	2.8	0.0	0.0	1.3
Aberdovey	0.0	1.1	2.3	0.0	0.8	2.2	0.0	0.0	1.1	0.0	0.0	0.6
Cardiff	0.3	1.2	2.8	0.6	2.0	3.0	0.0	0.6	2.8	0.0	0.0	2.2
New Radnor	0.0	1.0	2.6	1.0	2.0	2.7	0.0	0.6	2.5	0.0	0.0	1.6
Pembroke	0.3	2.1	3.3	1.7	2.6	3.2	0.8	2.3	3.3	0.0	0.0	1.7

	JUNE			JULY			AUGUST			SEPT		
	LQ	M	HQ	LQ	M	HQ	LQ	M	HQ	LQ	M	HQ
Cardigan	0.6	1.7	2.6	1.5	2.4	2.9	0.6	1.9	2.8	0.0	0.0	2.1
Derwen	0.3	2.1	2.6	0.6	2.3	2.9	0.1	1.3	2.5	0.0	0.0	2.0
Abergevenny	0.9	1.5	2.9	2.1	2.8	3.7	0.8	2.3	4.0	0.0	0.3	3.4
Amlwch	0.7	2.2	3.0	1.2	2.3	3.1	0.3	1.5	2.9	0.0	0.0	2.0
Wrexham	1.1	2.3	3.1	2.0	2.9	3.5	1.2	2.7	3.2	0.0	1.9	3.0
Welshpool	0.8	2.3	3.0	1.7	2.7	3.3	0.0	2.2	3.3	0.0	0.8	2.6
Denbigh	2.0	2.5	3.4	1.9	3.4	4.0	1.8	3.2	4.1	0.3	1.7	4.0
Hanmer	1.7	2.2	3.0	2.0	3.0	3.6	1.6	2.8	3.7	0.1	2.0	2.9
Llandudno	2.1	2.8	3.6	2.9	3.7	4.1	2.5	3.6	4.2	0.3	2.4	4.1

Any comments or suggestions on this paper should be referred to the author.

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